AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1.   (Currently Amended) A method for addressing packets in a firewall cluster within a single network, the firewall cluster including a plurality of firewall nodes, the method comprising:

selecting, from the firewall cluster within the single network, one of the firewall nodes ~~within the single network~~ for processing a first packet;

receiving, at a first processor associated with the selected firewall node, the first packet;

~~determining~~ modifying, by the first processor, as a function of a multidimensional space for representing addresses processed by a set of data processors, a first address for the first packet into a second address for the first packet, the second address being within a range of addresses assigned only to the selected firewall node; and

forwarding the first packet based on the ~~determined first~~ second address.

2.   (Original) The method of claim 1, further comprising:

using an N-tuple space as the multidimensional space.

3.   (Original) The method of claim 2, further comprising:

assigning to the first processor a first region based on the N-tuple space.

4.   (Original) The method of claim 3, further comprising:

using the first address, such that the first address represents a point within

the first region.

5.   (Original) The method of claim 4, further comprising:

using N address values as the N-tuple, such that the N address values

represent the point.

6.   (Original) The method of claim 2, further comprising:

using the N-tuple space, such that N is equal to a value of at least two.

7.   (Original) The method of claim 3, further comprising:

assigning to a second processor a second region based on the N-tuple

space, such that the first region is separate from the second region.

8.   (Currently Amended) The method of claim 7, further comprising:

forwarding, at the second processor, a second packet with a the second

address determined based on the second region, such that the second packet does not

conflict with the first packet.

9.   (Currently Amended) The method of claim 7, further comprising:

forwarding, at the second processor, a second packet with a the second

address determined based on the second region, such that the second address does

not conflict with the first address.

10.   (Currently Amended) A method for addressing packets associated with a plurality of processors, each processor being associated with one of a plurality of firewall nodes in a firewall cluster within a single network, the method comprising:

selecting, from the firewall cluster within the single network, one of the firewall nodes ~~within the single network~~ for processing a packet, the selected firewall node including a first processor;

receiving, at the first processor, the packet;

reading, at the first processor, an N-tuple address of the received packet;

determining, by the first processor, whether the N-tuple address is within an N-tuple space assigned to the first processor;

sending the packet with the N-tuple address, when it is determined that the N-tuple address is within the N-tuple space assigned to the first processor; and

determining a modified N-tuple address, when it is determined that the N-tuple address is not within the N-tuple space assigned to the first processor and sending the packet ~~with~~ based on the modified N-tuple address.

11.   (Original) The method of claim 10, wherein the reading step further comprises:

reading as the N-tuple address, a plurality of values from the received packet.

12.   (Original) The method of claim 11, wherein the reading step further comprises:

reading at least a source port.

13.   (Original) The method of claim 10, wherein the step of determining whether the N-tuple address is within the N-tuple space, further comprises:

determining whether the N-tuple address is within the N-tuple space based on a comparison between the N-tuple address of the packet and the N-tuple space assigned to the first processor.

14.   (Original) The method of claim 10, wherein the step of determining whether the N-tuple address is within the N-tuple space, further comprises:

determining whether the N-tuple address of the packet is within the N-tuple space based a quadrant identifier value, wherein the quadrant identifier value corresponds to the first processor.

15.   (Original) The method of claim 14, wherein the step of determining whether the N-tuple address of the packet is within the N-tuple space, further comprises:

determining the quadrant identifier value based on a hash function.

16.   (Original) The method of claim 14, wherein the step of determining whether the N-tuple address of the packet is within the N-tuple space, further comprises:

determining the quadrant identifier value based on a hash function and a modulo division.

17.   (Original) The method of claim 10, wherein the step of determining the modified N-tuple further comprises:

adding a value to the N-tuple address, such that the modified N-tuple address is within the N-tuple space assigned to the first processor.

18.   (Original) The method of claim 14, wherein the step of determining the modified N-tuple address further comprises:

modifying the N-tuple address based on the quadrant identifier value.

19.   (Original) The method of claim 10, wherein the step of sending the packet with the N-tuple address, further comprises:

sending the packet with the N-tuple address, such that the packet does not conflict with another N-tuple address associated with a second one of the processors.

20.   (Cancelled).

21.   (Original) The method of claim 10, further comprising:
using a computer as the first processor.

22.   (Original) The method of claim 10, further comprising:
using a router as the first processor.

23.   (Cancelled).

24. (Currently Amended) A method of addressing packets in a firewall cluster within a singe network, wherein the firewall cluster comprises a set of processors, each processor being associated with a firewall node, the method comprising:

selecting, from the firewall cluster within the single network, one of the firewall nodes ~~within the single network~~ for processing a packet, the selected firewall node including a first processor;

receiving, at the first processor, the packet;

reading, at the first processor, an N-tuple address of the received packet;

determining a quadrant identifier based on the read N-tuple address, a hash function, and modulo division;

determining whether the read N-tuple address corresponds to the first processor based on the quadrant identifier;

sending the packet with the N-tuple address, when the quadrant identifier corresponds to the first processor; and

determining a modified N-tuple address, when the quadrant identifier does not ~~corresponds~~ correspond to the first processor and sending the packet ~~with~~ based on the modified N-tuple address.

25. (Original) The method of claim 24, further comprising:

assigning each of the set of processors a firewall node number.

26. (Original) The method of claim 25, further comprising:

determining whether the N-tuple address corresponds to the first

processor based on the quadrant identifier and the firewall node number.

27.   (Currently Amended) A system for addressing packets in a firewall cluster

within a single network, the firewall cluster including a plurality of firewall nodes, the

system comprising:

means for selecting, from the firewall cluster within the single network, one

of the firewall nodes ~~in the single network~~ for processing a first packet;

means for receiving, at a first processor associated with the selected

firewall node, the first packet;

means for ~~determining~~ modifying as a function of a multidimensional

space for representing addresses processed by a set of data processors, a first address

for the first packet into a second address for the first packet, the second address being

within a range of addresses assigned only to the selected firewall node; and

means for forwarding the first packet based on the ~~determined first~~ second

address.

28.   (Currently Amended) A system for addressing packets associated with

one or more processors, each processor being associated with a firewall node in a

firewall cluster within a single network, the system comprising:

means for selecting, from the firewall cluster within the single network, one

of the firewall nodes ~~within the single network~~ for processing a packet, the selected

firewall node including a first processor;

means for receiving, at the first processor, the packet;

means for reading, at the first processor, an N-tuple address of the received packet;

means for determining whether the N-tuple address is within an N-tuple space assigned to the first processor;

means for sending the packet with the N-tuple address, when it is determined that the N-tuple address is within the N-tuple space assigned to the first processor; and

means for determining a modified N-tuple address, when it is determined that the N-tuple address is not within the N-tuple space assigned to the first processor and sending the packet ~~with~~ based on the modified N-tuple address.

29.   (Currently Amended) A firewall cluster within a single network including one or more firewall nodes associated with one or more processors, comprising:

means for selecting, from the firewall cluster within the single network, one of the firewall nodes ~~within the single network~~ for processing a packet, the selected firewall node including a first processor;

means for receiving, at the first processor, the packet;

means for reading, at the first processor, an N-tuple address of the received packet;

means for determining a quadrant identifier based on the read N-tuple address, a hash function, and modulo division;

means for determining whether the read N-tuple address corresponds to the first processor based on the quadrant identifier;

means for sending the packet with the N-tuple address, when the quadrant identifier corresponds to the first processor; and

means for determining a modified N-tuple address, when the quadrant identifier does not corresponds to the first processor and sending the packet ~~with~~ based on the modified N-tuple address.

30. (Currently Amended) A system including a firewall cluster within a single network including a plurality of firewall nodes, the firewall nodes being associated with one or more processors, said system comprising:

at least one memory comprising:

code that selects, from the firewall cluster within the single network, one of the firewall nodes ~~within the single network~~ for processing a first packet, the selected firewall node including a first processor;

code that receives, at the first processor, the first packet;

code that ~~determines~~ modifies, as a function of a multidimensional space for representing addresses processed by a set of data processors, a first address for the first packet into a second address for the first packet, the second address being within a range of addresses assigned only to the selected firewall node; and

code that forwards the first packet based on the ~~determined first~~ second address; and

at least one processor for executing the code.

31.   (Currently Amended) A system including a firewall cluster within a single network including a plurality of firewall nodes, the firewall nodes being associated with one or more processors, the system comprising:

at least one memory comprising:

code that selects, from the firewall cluster within the single network, one of the firewall nodes ~~within the single network~~ for processing a packet, the selected firewall node including a first processor;

code that receives, at the first processor, the packet;

code that reads, at the first processor, an N-tuple address of the received packet;

code that determines whether the N-tuple address is within an N-tuple space assigned to the first processor;

code that sends the packet with the N-tuple address, when it is determined that the N-tuple address is within the N-tuple space assigned to the first processor; and

code that determines a modified N-tuple address, when it is determined that the N-tuple address is not within the N-tuple space assigned to the first processor and sending the packet ~~with~~ based on the modified N-tuple address; and

at least one processor for executing the code.

32.   (Original) The system of claim 31, wherein code that reads further comprises:

    code that reads as the N-tuple address, a plurality of values from the received packet.

33.   (Original) The system of claim 32, wherein code that reads the plurality of values further comprises:

    code that reads at least a source port.

34.   (Original) The system of claim 31, wherein code that determines whether the N-tuple address is within the N-tuple space, further comprises:

    code that determines whether the N-tuple address is within the N-tuple space based a comparison between the N-tuple address of the packet and the N-tuple space assigned to the first processor.

35.   (Original) The system of claim 31, wherein code that determines whether the N-tuple address is within the N-tuple space, further comprises:

    code that determines whether the N-tuple address of the packet is within the N-tuple space based a quadrant identifier value, wherein the quadrant identifier corresponds to the first processor.

36.   (Original) The system of claim 35 wherein code that determines whether the N-tuple address of the packet is within the N-tuple space, further comprises:

code that determines the quadrant identifier value based on a hash

function.

37.   (Currently Amended) A firewall cluster including a plurality of firewall

nodes within a single network, the firewall nodes being associated with one or more

processors, the firewall cluster comprising:

at least one memory comprising

code that selects, from the firewall cluster within the single network,

one of the firewall nodes ~~within the single network~~ for processing a packet, the

selected firewall node including a first processor;

code that receives, at the first processor, the packet;

code that reads, at the first processor, an N-tuple address of the

received packet;

code that determines a quadrant identifier based on the read

N-tuple address, a hash function, and modulo division;

code that determines whether the read N-tuple address

corresponds to the first processor based on the quadrant identifier;

code that sends the packet with the N-tuple address, when the

quadrant identifier corresponds to the first processor; and

code that determines a modified N-tuple address, when the

quadrant identifier does not corresponds to the first processor and sends the

packet ~~with~~ based on the modified N-tuple address; and

at least one processor for executing the code.

38.   (Currently Amended) A computer-readable storage medium comprising

instructions which, when executed by a processor, perform a method for addressing

packets in a firewall cluster within a single network, the firewall cluster including a

plurality of firewall nodes, the method including:

        selecting one, from the firewall cluster within the single network, of the

firewall nodes within the single network for processing a packet, the selected firewall

node being associated with a first processor;

        receiving, at the first processor, the packet;

        reading, at the first processor, an N-tuple address of the received packet;

        determining whether the N-tuple address is within an N-tuple space

assigned to the first processor;

        sending the packet with the N-tuple address, when it is determined that

the N-tuple address is within the N-tuple space assigned to the first processor; and

        determining a modified N-tuple address, when it is determined that the

N-tuple address is not within the N-tuple space assigned to the first processor and

sending the packet with based on the modified N-tuple address.

39.   (Currently Amended) The computer-readable storage medium of claim

38, wherein reading further comprises:

        reading as the N-tuple address, a plurality of values from the received

packet.

40.   (Currently Amended) The computer-readable storage medium of claim 39, wherein reading the plurality of values further comprises:

reading at least a source port.

41.   (Currently Amended) The computer-readable storage medium of claim 39, wherein determining whether the N-tuple address is within the N-tuple space, further comprises:

determining whether the N-tuple address is within the N-tuple space based a comparison between the N-tuple address of the packet and the N-tuple space assigned to the first processor.

42.   (Currently Amended) The computer-readable storage medium of claim 39, wherein determining whether the N-tuple address is within the N-tuple space, further comprises:

determining whether the N-tuple address of the packet is within the N-tuple space based a quadrant identifier value, wherein the quadrant identifier value corresponds to the first processor.

43.   (Currently Amended) The computer-readable storage medium of claim 42, wherein determining whether the N-tuple address of the packet is within the N-tuple space, further comprises:

determining the quadrant identifier value based on a hash function.

44.   (Currently Amended) A computer-readable storage medium comprising instructions which, when executed by a processor, perform a method for addressing packets in a firewall cluster within a single network, the firewall cluster including a plurality of firewall nodes, the method including:

selecting, from the firewall cluster within the single network, one of the firewall nodes within the single network for processing a packet, the selected firewall node including a first processor;

receiving, at the first processor, the packet;

reading, at the first processor, an N-tuple address of the received packet;

determining a quadrant identifier based on the read N-tuple address, a hash function, and modulo division;

determining whether the read N-tuple address corresponds to the first processor based on the quadrant identifier;

sending the packet with the N-tuple address, when the quadrant identifier corresponds to the first processor; and

determining a modified N-tuple address, when the quadrant identifier does not corresponds to the first processor and sending the packet with based on the modified N-tuple address.

45.   (Currently Amended) A computer-readable storage medium comprising instructions which, when executed by a processor, perform a method for addressing packets in a firewall cluster within a single network, the firewall cluster including a plurality of firewall nodes, the method including:

selecting, from the firewall cluster within the single network, one of the firewall nodes within the single network for processing a first packet, the selected firewall node being associated with a first processor;

receiving, at the first processor, the first packet;

~~determining~~ modifying, as a function of a multidimensional space for representing addresses processed by a set of data processors, a first address for the first packet into a second address for the first packet, the second address being within a range of addresses assigned only to the selected firewall node; and

forwarding the first packet based on the ~~determined first~~ second address.